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# **Adafruit RTTTL Library Documentation**

***Release 1.0***

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This plays [RTTTL](#) melodies.



# CHAPTER 1

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## Dependencies

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This driver depends on:

- [Adafruit CircuitPython](#)
- [Adafruit CircuitPython Waveform](#)

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the [Adafruit library and driver bundle](#).



## CHAPTER 2

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### Usage Example

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This plays Frosty the Snowman:

```
import board
import adafruit_rtttl

adafruit_rtttl.play(board.A0, "Snowman:d=8,o=5,b=200:2g,4e.,f,4g,2c6,b,c6,4d6,4c6,4b,
↪a,2g.,b,c6,4d6,4c6,4b,a,a,g,4c6,4e.,g,a,4g,4f,4e,4d,2c.,4c,4a,4a,4c6,4c6,4b,4a,4g,
↪4e,4f,4a,4g,4f,2e.,4e,4d,4d,4g,4g,4b,4b,4d6,d6,b,4d6,4c6,4b,4a,4g,4p,2g")
```



## CHAPTER 3

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### CPX Usage Example

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This plays Frosty the Snowman on a Circuit Playground Express (we must enable onboard speaker):

```
import board
from digitalio import DigitalInOut, Direction
import adafruit_rtttl

spkrenable = DigitalInOut(board.SPEAKER_ENABLE)
spkrenable.direction = Direction.OUTPUT
spkrenable.value = True

adafruit_rtttl.play(board.A0, "Snowman:d=8,o=5,b=200:2g,4e.,f,4g,2c6,b,c6,4d6,4c6,4b,
↪a,2g.,b,c6,4d6,4c6,4b,a,a,g,4c6,4e.,g,a,4g,4f,4e,4d,2c.,4c,4a,4a,4c6,4c6,4b,4a,4g,
↪4e,4f,4a,4g,4f,2e.,4e,4d,4d,4g,4g,4b,4b,4d6,d6,b,4d6,4c6,4b,4a,4g,4p,2g")
```



## CHAPTER 4

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### Contributing

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Contributions are welcome! Please read our [Code of Conduct](#) before contributing to help this project stay welcoming.



## CHAPTER 5

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### Building locally

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To build this library locally you'll need to install the `circuitpython-build-tools` package.

```
python3 -m venv .env
source .env/bin/activate
pip install circuitpython-build-tools
```

Once installed, make sure you are in the virtual environment:

```
source .env/bin/activate
```

Then run the build:

```
circuitpython-build-bundles --filename_prefix adafruit-circuitpython-rtttl --library_
↪location .
```

### 5.1 Sphinx documentation

Sphinx is used to build the documentation based on rST files and comments in the code. First, install dependencies (feel free to reuse the virtual environment from above):

```
python3 -m venv .env
source .env/bin/activate
pip install Sphinx sphinx-rtd-theme
```

Now, once you have the virtual environment activated:

```
cd docs
sphinx-build -E -W -b html . _build/html
```

This will output the documentation to `docs/_build/html`. Open the `index.html` in your browser to view them. It will also (due to `-W`) error out on any warning like Travis will. This is a good way to locally verify it will pass.



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## Table of Contents

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### 6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/rtttl\_simpletest.py

```
1  # The MIT License (MIT)
2  #
3  # Copyright (c) 2017 Scott Shawcroft for Adafruit Industries
4  #
5  # Permission is hereby granted, free of charge, to any person obtaining a copy
6  # of this software and associated documentation files (the "Software"), to deal
7  # in the Software without restriction, including without limitation the rights
8  # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
9  # copies of the Software, and to permit persons to whom the Software is
10 # furnished to do so, subject to the following conditions:
11 #
12 # The above copyright notice and this permission notice shall be included in
13 # all copies or substantial portions of the Software.
14 #
15 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
16 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
17 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
18 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
19 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
20 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
21 # THE SOFTWARE.
22
23 # This is tested on the CircuitPlayground Express
24
25 import adafruit_rtttl
26 import digitalio
27 import board
```

(continues on next page)

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```

28
29 enable = digitalio.DigitalInOut(board.SPEAKER_ENABLE)
30 enable.switch_to_output(value=True)
31
32 adafruit_rtttl.play(board.SPEAKER, "itchy:d=8,o=6,b=160:c,a5,4p,c,a,4p,c,a5,c,a5," + \
33     "c,a,4p,p,c,d,e,p,e,f,g,4p,d,c,4d,f,4a#,4a,2c7")
34 adafruit_rtttl.play(board.SPEAKER, "Phantom:d=4,o=5,b=140:c,f,c,d#,8c#,2c#,a#4," + \
35     "d#,8a#4,2c,c,f,c,d#,8c#,2c#,a#4,d#,8a#4,2c,p,c,f,g#,c.6,8a#,2a#,a#,d#.6,8a#," + \
36     "2c6,p,c6,2f.6,8d#6,8c#6,8c6,8a#,8g#,8g,8f,2e,c#,c#. ,8c,2c")

```

## 6.2 adafruit\_rtttl

Play notes to a digialio pin using ring tone text transfer language (rtttl).

- Author(s): Scott Shawcroft

`adafruit_rtttl.play` (*pin*, *rtttl*, *octave=None*, *duration=None*, *tempo=None*)

Play notes to a digialio pin using ring tone text transfer language (rtttl). :param ~digitalio.DigitalInOut pin: the speaker pin :param rtttl: string containing rtttl :param int octave: represents octave number (default 6 starts at middle c) :param int duration: length of notes (default 4 quarter note) :param int tempo: how fast (default 63 beats per minute)

## CHAPTER 7

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### Indices and tables

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- `genindex`
- `modindex`
- `search`



### **a**

`adafruit_rtttl`, [14](#)



## A

`adafruit_rtttl` (module), [14](#)

## P

`play()` (in module `adafruit_rtttl`), [14](#)